

72. (amended) A method for increasing the production of cysteine, glutathione, methionine or sulfur-containing derivatives of methionine by plant cells and plants, said method comprising

transforming plant cells with a nucleotide sequence encoding a serine acetyltransferase, and

expressing said nucleotide sequence encoding a serine acetyltransferase in said plant cells or in a plant containing said plant cells, whereby expression of said nucleotide sequence results in the increased production of cysteine, methionine, glutathione, methionine or sulfur-containing derivatives of methionine in said plants cells or plant.

#### REMARKS

In the Advisory Action mailed November 21, 2002, the Examiner indicated on page 2 in "Continuation of 2", that claim 20 is indefinite in its recitation of "naturally expressed fusion protein", stating that fusion proteins are constructs involving a portion from one protein and another portion from another protein, thus it is unclear what a naturally expressed fusion protein is. Claim 20 has been amended to state that the serine acetyltransferase and transit peptide of the fusion protein are from the same protein. Support for this amendment can be found in the specification at page 13, lines 9-13. Page 13, lines 9-13 of the specification indicate that in the fusion proteins of the invention, the SAT can be homologous or heterologous to the transit peptide and that in the first instance [i.e., SAT is homologous to the transit peptide], the fusion protein is the SAT2 or SAT4 protein expressed naturally in the chloroplasts of plant cells. The proteins

SAT2 and SAT4, which are shown in Figures 8 and 9, contain N-terminal transit peptides at amino acids 1-32 and 1-30, respectively. Thus, in the fusion protein of claim 19, the transit peptide and SAT are from the same protein.

The Examiner also indicated that claim 72 lacks antecedent basis for the limitation "said nucleic acid sequence" in line 8. Line 8 of claim 72 has been amended to delete "nucleic acid" and substitute "nucleotide", such that line 8 now states "said nucleotide sequence", which finds antecedent basis in line 4 of the claim.

An early and favorable Office Action is requested.

Respectfully submitted,

CONNOLLY BOVE LODGE & HUTZ LLP

Date: December 17, 2002

By: Liza D. Hohenschutz  
Liza D. Hohenschutz  
Reg. No. 33,712  
P.O. Box 2207  
Wilmington, Delaware 19899  
Attorney for Applicants



RECEIVED  
DEC 20 2002  
TECH CENTER 1600/2900

Marked Up Version Of Amended Claims

20. (three times amended) Method according to claim 19, characterized in that the serine acetyltransferase and transit peptide of the fusion protein [is the naturally expressed fusion protein] are from the same protein.

72. (amended) A method for increasing the production of cysteine, glutathione, methionine or sulfur-containing derivatives of methionine by plant cells and plants, said method comprising

transforming plant cells with a nucleotide sequence encoding a serine acetyltransferase, and

expressing said nucleotide sequence encoding a serine acetyltransferase in said plant cells or in a plant containing said plant cells, whereby expression of said [nucleic acid] nucleotide sequence results in the increased production of cysteine, methionine, glutathione, methionine or sulfur-containing derivatives of methionine in said plants cells or plant.